



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,772	09/19/2003	C. David Young	02CR146/KE	9426

7590 10/05/2007
ROCKWELL COLLINS, INC.
Attention: Kyle Eppele
M/S 124-323
400 Collins Rd. NE
Cedar Rapids, IA 52498

EXAMINER

KARIKARI, KWASI

ART UNIT	PAPER NUMBER
----------	--------------

2617

MAIL DATE	DELIVERY MODE
-----------	---------------

10/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/666,772	YOUNG, C. DAVID	
	Examiner Kwasi Karikari	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 15 August 2007.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-3 and 7-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-3 and 7-22 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application
 6) Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/15/2007 has been entered.

Response to Arguments

2. Applicant's arguments, filed on 08/15/2007 with respect to claims 1,8 and 16, in the remarks, have been considered but are moot in view of the new ground(s) of rejection necessitated by the new limitations added to claims 1, 8 and 16. See the rejection below of claims 1, 8 and 16 for relevant citations found in Billhartz disclosing the newly added limitations "a monitoring signal of a processor buffer availability, and a monitoring of signal of priority queues capacity".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 7-22 are rejected under U.S.C. 103(a) as being unpatentable over Cain et al. (U.S 20030198206 A1), (hereafter Cain) in view of Billhartz (U.S 20040203820 A1), (hereinafter Billhartz) and further in view of Nataraja (U.S 20020049039), (hereinafter, Natarajan).

Regarding **claims 1, 8 and 16**, Cain discloses a communications system/method/ tranceiver (see Fig. 1), comprising:

a plurality of transceiver nodes (mobile nodes 12a-12h, see Fig. 1) configured to utilize a time division multiple access structure (TDMA access scheme, see Par. 0004) to communicate between the transceiver nodes (12a-12h), each transceiver node generating congestion metric information based on the utilization of a link to each of its neighbors (= interference detection unit 18d detects interference in time slot for communication with neighboring mobile nodes, see Pars. [0029-30 and 0038-42]);

the time division multiple access structure including a plurality of time slots during which the transceiver nodes are configured to communicate data cells (= traffic coordination unit 18e coordinates communication with each neighboring mobile node by allocating time slots; time slot for transmission and receiving data; and RF signal, see Pars. [0030-31 and 0054]), the data cells being transmitted from a transmission queue (= queue buildup/queue state, see Par. 0079 and 0139-44), the data cells including the congestion (interference/packet error rate) metric information (see Pars. [0028, 0042 and 0077]); but fails to teach routing information and “wherein the congestion metric information is base on comparing cell counts against a total capacity of each link,a

monitoring signal of a processor buffer availability, and a monitoring of signal of priority queues capacity”.

However, Billhartz teaches routing information (see Par. [0074]). Billhartz also teaches monitoring of link performance that is based on QOS parameter that is function of recent delay, available bandwidth, priority and node queue size (see Pars. 0054, 0057 and 0063-64). Furthermore, Billhartz mentions a traffic matrix, which indicates how much traffic is being sent from a node, and buffering of such information in a traffic information buffer (see Pars. 69-70 and 0072-73). Therefore, Billhartz teaches the claimed limitations, “a monitoring signal of a processor buffer availability, and a monitoring of signal of priority queues capacity” and also in accordance with Applicant’s specification.

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

The combination of Cain and Billhartz fails to teach “congestion metric information is base on comparing cell counts against a total capacity of each link”.

Natarajan teaches the monitoring of traffic demand conditions and determining a least utilized base station for servicing a channel request by a subscriber unit, see (Par. 0008). Furthermore, Natarajan mentions processes of channels acquisition and the determination of channel utilization (see Pars. 0023-27).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Natarajan with the systems of Cain and Billhartz for the benefit

of achieving a system that makes a periodic computation and exchange of traffic demand and state information to neighboring base stations, whereby improving channel management, allocation and capacity (see Natarajan, Par. 0008).

Regarding **claims 2 and 14**, as recited in claims 1 and 8, Cain further discloses the communication system, wherein the congestion metric information is generated by a channel access subsystem (see Pars. [0033-37 and 0040-42]).

Regarding **claim 3**, as recited in claim 1, Cain further discloses the communication system, wherein the cell counts are transmitted in unicast and broadcast allocated slots (see Pars. [0047, 0054, and 0058-59]).

Regarding **claim 7**, as recited in claim 1, Cain fails to discloses the communication system wherein the congestion metric information is based on the availability of unallocated slots.

However, Billhartz teacher, system wherein the congestion metric information is based on the availability of unallocated slots (see Par. [0070]).
It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

Regarding **claims 9 and 17**, as recited in claims 8 and 16, Cain further discloses the communication system/tranceiver, wherein the congestion metric information is provided as one of a predetermined number of states (see Pars. 0083 and 0089-90).

Regarding **claims 10 and 18**, as recited in claims 9 and 17, Cain further discloses the communication system/tranceiver, wherein the predetermined number of states is four (4) (see Pars. 0083 and 0089-90).

Regarding **claim 11 and 19**, as recited in claims 8 and 16, Cain fails to disclose the communication system/transceiver, wherein a route management subsystem disseminates the congestion metric information.

However, Billhartz teaches the communication system/transceiver, wherein a route management subsystem disseminates the congestion metric information (see Par. [0074]).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

Regarding **claim 12 and 20**, as recited in claims 8 and 16, Cain fails to disclose the communication system/transceiver, wherein a route management subsystem, wherein a flow control subsystem of a second node may utilize the congestion metric information when received by the second node.

However, Billhartz teaches wherein a route management subsystem, wherein a flow control subsystem of a second node may utilize the congestion metric information when received by the second node (see Par. [0078]).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

Regarding **claim 13 and 21**, as recited in claims 8 and 16, Cain fails to disclose the communication system/transceiver, wherein a route management subsystem, wherein the congestion metric information and routing information is transmitted by a route management subsystem.

However, Billhartz teaches wherein a route management subsystem, wherein the congestion metric information and routing information is transmitted by a route management subsystem (see Pars. [0073-74]).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

Regarding **claims 15 and 22**, as recited in claims 8 and 16, Cain further discloses the communication system/tranceiver, wherein the transmission system is a time division multiple access (TDMA) system (see Pars. [Pars. [0004 and 0010]).

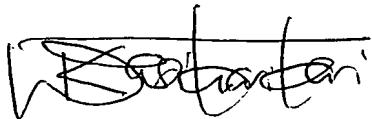
Conclusion

4. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwasi Karikari whose telephone number is 571-272-8566. The examiner can normally be reached on M-F (8 am - 4pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Rafael Pérez-Gutiérrez* can be reached on 571-272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8566. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Art Unit: 2617

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kwasi Karikari
Patent Examiner.
09/24/2007



Rafael Perez-Gutierrez
Supervisory Patent Examiner
Technology Center 2600
Art Unit 2617

10/11/07